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Inventors: Nicholas V. Nechitailo, Dean Rattazzi, Matthew Soltis and Mike Rossi

The method as claimed in claim 12, further comprising winding a pad between 20. successive layers of said material.

- The method as claimed in claim 20 wherein said pad has a Young's modulus 21. less than that of said material.
- 22. The method as claimed in claim 20, wherein said pad is continuously wound with said material.
- 23. The method as claimed in claim 20, further comprising: completing said winding of said material onto said spool; and winding said material onto a second spool while removing said pad from said winding.
- A method of winding a material on a spool comprising: 15 24.

winding said material onto a first spool while inserting a pad between successive layers of said material and providing a draw tension on said material; and

winding said material onto a second spool from said first spool while removing said pad from said windings of said material.

The method as claimed in claim 24, further comprising placing a buffer pad on 25. said first spool prior to winding said material.

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26. The method as claimed in claim 25, wherein said buffer pad has a Young's modulus less than that of said material.

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- 27. The method as claimed in claim 24, wherein said pad has a Young's modulus less than that of said material.
- 28. The method as claimed in claim 24, further comprising varying said draw tension while said material is winding onto said first spool.
- 29. The method as claimed in claim 28, wherein said draw tension is decreased while said material is winding onto said first spool.
- 30. The method as claimed in claim 28, wherein said draw tension is varied according to a monotonical function.
- 31. The method as claimed in claim 24, further comprising varying an angular speed of said first spool while said material is winding onto said first spool.
- 32. The method as claimed in claim 31, wherein said angular speed is increased while said material is winding onto said first spool.
- 33. The method as claimed in claim 31, wherein said angular speed is varied according to a monotonical function.

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34. A method for winding a buffer tube having at least one optical fiber therein onto a spool comprising:

placing a buffer pad on an outer surface of a core of said spool;

winding said buffer tube onto said buffer pad while applying a draw tension to said buffer tube; and

functionally changing said drawing tension as said buffer tube is wound onto said spool and said buffer pad.

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35. The method as claimed in claim 34, wherein said changing occurs according to a monotonical function which monotonically varies said draw tension during said winding.

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36. The method as claimed in claim 35, wherein said monotonical function monotonically decays said draw tension during said winding.

37. The method as claimed in claim 34, wherein the Young's modulus of said buffer pad is lower than the Young's modulus of said buffer tube.

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38. The method as claimed in claim 34, wherein a diameter of said spool at a point where said buffer tube is winding on said spool is larger than 100 mm.